

REMARKS

Claims 1-7 are pending in this application. Claims 1 and 6 have been amended and Claim 8 has been canceled.

Rejections under 35 USC §102 and §103

The present invention is a probe sheet that includes a base plate (100) mounted to a prober of the instrument and a probe sheet (200) mounted to a lower surface of the base plate (100). The probe sheet (200) includes a flexible sheet member (210) and a number of probes (220) provided on one surface of the sheet member (210). The probe (220) has a shape capable of elastic deformation in a direction, upward or downward. As indicated in Figures 4(a) through 4(f) the probe (220) may take a number of shapes. Further, as indicated in Figures 5(a) and 5(b) the probe (220) may be reinforced by a reinforcing member (230) made of alumina with an elasticity higher than the probe (220).

The present invention features that plural measurement probes disposed on a sheet member can respectively elastically deform in response to a force acting on the top portion to be respectively contacted with plural electrode pads so that proximity to the sheet member is varied in order to absorb to accommodate dispersion in height of electrodes of the measurement objective, while the sheet member can elastically deform in response to a force acting thereon through the respective measurement probes so that proximity to the sheet member is varied in order to accommodate inclination and/or warp of the measurement objective in whole. In other words, the present invention

adopts a plurality of stages of elastic deformation, namely, elastic deformation of the probes and elastic deformation of the flexible sheet member, in order to cope with dispersion in height of the electrodes of the measurement objective as well as inclination and/or warp of the measurement objective in whole.

In contrast, Kanamaru, discloses a probe being a conductive member and having a shape of protrusion, which is not adapted for elastic deformation (see Figs. 16A and 16). The lack of elastic deformation is also clear from the fact that the sheet member (sheet material 29) is elastically deformed to tilt the probe so that the probe wipes on the surface of the electrode pad. That is, if the probe was elastically deformable toward the sheet member, the tilt of the probe would be absorbed by the deformation of the probe itself and would possibly fail to wipe the electrode pad. Further, Kanamaru stated in column 12, lines 55-60 that the sheet member is deformable but does NOT state the probe is deformable.

Therefore, Applicants believe that as long as the present invention has a different configuration from that of Kanamaru, the invention cannot be rejected under 35 USC §102.

The prior art cited by the Examiner has been studied and Applicants note that each prior art has either one of the two types of structure:

Structure 1: A rigid base plate with a deformable probe for obtaining flexible contact between an electrode of a measurement objective and the probe.

Structure 2: A deformable base plate with a rigid probe for similarly obtaining flexible contact between an electrode of a measurement objective and the probe.

In contrast, the present invention has a structure featuring a sheet member deformable against a base plate, in combination with a probe deformable against the sheet member.

It is clear that each cited prior art has a different structure from the present invention and, therefore, cannot be ground of rejections under §102. Even though the claimed probe and sheet member are individually known in public, no prior art explicitly state the problem or need for combining the two elements, even those skilled in the art would not easily reach the concept as claimed in the present invention.

Therefore, independent claim 1 patentably distinguishes over the prior art relied upon by reciting,

“A probe sheet unit being a sensing section of a semiconductor wafer measuring instrument comprising: a base plate mountable to a prober of the instrument; a sheet member mounted to the base plate; and plural measurement probes provided on one surface of the sheet member, wherein the plural measurement probes are elastically deformable respective in response to a force acting on the top thereof for varying proximity from the top of the probe to said sheet member and said sheet member is elastically deformable in response to a force acting thereon through the respective measurement probes for varying proximity therefrom to said base plate.” (Emphasis Added)

Therefore withdrawal of the rejection of claims 1-8 under 35 USC §102 and §103 is respectfully requested.

Conclusion

In view of the aforementioned amendments and accompanying remarks, claims, as amended,

are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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